Vegetation Composition Mapping Using OBIA on High Spatial resolution Image (Case Study: Hutan Tidar, Magelang)

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Abstract: As time goes by, remote sensing developments have same way with development of technology especially in sensor and plane. This also extend on remote sensing application such as vegetation object. Diversity of vegetation make vegetation object very interesting to be studied. Development of data ability on remote sensing who can record object very detail make remote sensing possible to give information more detail about forest resources such as vegetation composition. Vegetation interpretation and classification have some of method, one of method are commonly use is pixel based classification. The problems for this method on high spatial resolution image are salt and paper who appear in result of classification because information from high resolution image pixel value is sub-pixel from variation of vegetation composition. Vegetation composition variation was not represented at pixel level but rather at the level of the area or cluster of pixels. This research aimed for mapping the vegetation composition using OBIA method (Object based image analysis) on high resolution image Worldview-2 as alternative from pixel based classification method. OBIA has advantages than pixel based classification because OBIA not just use per-pixel value but also uses color aspect, shape, scale and more of that, depend on software so it can cover the weakness of pixel based classification. Cases study for this research on Hutan Tidar Magelang which are tropical forest with have vegetation composition heterogen enough so it's considered to represent the condition of Indonesia forest. The result of this research provides understanding about accuracy OBIA to composition vegetation mapping on heterogen forest.

Keywords: OBIA, Worldview-2, composition vegetation, forest, mapping